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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/787,176   | 02/27/2004  | Chan-Tung Chen       | 3624-0157P          | 4600             |
| 2292   | 7590        | 04/25/2006           | EXAMINER            |                  |
| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | COZART, JERMIE E    |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3726                |                  |

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/787,176

Applicant(s)

CHEN, CHAN-TUNG

Examiner

Jermie Cozart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi (4,252,262) in view of Matsumoto et al. (JP 2002224858 A) and Chang (US 2002/0187851).

Igarashi discloses manufacturing a golf club head (1), by forming a first inclined surface [comprised of a face (21) and flanges (18, 19, 20)] on an inner periphery of an opening (8) of a body (11), forming a second inclined surface on an outer periphery of a striking plate (12) with a second inclination corresponding to that of the first inclined surface of the opening (8) of the body (11), engaging the second inclined surface of the striking plate (12) with the inclined surface of the body (11), such that the striking plate (12) is engaged in the opening of the body (11) and the second inclined surface is engaged with the first inclined surface of the opening of body (11) to form an engaging area between the striking plate and the body in preparation for welding (i.e. fusion). The first inclined surface of the body (11) has a height greater than a thickness of the striking plate (12). The second inclined surface of the striking plate (12) has an annular groove (not shown) which is complementary to the flanges of the first inclined surface of the body. The opening (8) of the body (11) further includes a shoulder formed by the

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flanges (18, 19, 20). The first inclined surface of the body (11) is formed on an inner perimeter surface delimiting the opening (8), and the second inclined surface of the striking plate (12) is formed on an inner perimeter surface of the striking plate. See column 1, lines 35-40; column 2, lines 4-47; and figures 2 and 4 for further clarification.

Igarashi, however, does not disclose the following: exerting a predetermined force to the striking plate to tightly embed the striking plate in the opening of the body in preparation for friction welding, moving a rotating pin along the engaging area between the striking plate and the body to proceed with the friction welding with the predetermined force exerting on the striking plate, or surface finishing the engaging area between the striking plate and the body.

Matsumoto discloses exerting a predetermined force (i.e. press-fit force) onto a plate (1) which is thereby translated to the plate (3) in preparation for friction welding, and a rotating pin (11) is moved along an engaging area between two plates (1, 2) to proceed with friction welding, with the predetermined force exerting on the first plate (1), in order to provide a high strength joint. See abstract and figures 1-2 for further clarification.

Chang discloses surface finishing an engaging area between the between the striking plate (10) and the body (20) of a golf club head, in order to remove any burrs. See paragraph [0021] and figure 2 for further clarification.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to exert a predetermined force to the striking plate of Igarashi to tightly embed the plate in the opening of the body in preparation for friction welding, friction weld the striking plate of Igarashi to the body, and surface finish the engaging area between the striking plate and the body of Igarashi, in light of the

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respective teachings of Matsumoto and Chang, in order to provide a high strength joint between the assembled parts, and remove any burrs from the surface.

3. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi/Matsumoto/Chang as applied to claim 1 above, and further in view of Chen (5,871,408).

Igarashi/Matsumoto/Chang discloses all of the claimed subject matter except for an intermediate layer of nickel formed as a coating between the first inclined surface of the body and the second inclined surface of the striking plate.

Chen discloses an intermediate layer (30) of nickel formed as a coating between the inclined surface of the body (10) and the inclined surface of the striking plate (20).

*See column 2, lines 1-29, and figures 1-2 for further clarification.*

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention provide the golf club head of Igarashi/Matsumoto/Chang with an intermediate layer of nickel formed as a coating between the first inclined surface of the body and the second inclined surface of the striking plate, in light of the teachings of Chen, in order to effectively fuse the striking plate with the body.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa (5,697,855) in view of Matsumoto et al. (JP 2002224858 A) and Chang (US 2002/0187851).

Aizawa discloses manufacturing a golf club head (45), by forming a first inclined surface on an inner periphery of an opening (57) of a body (47) with a first inclination, forming a second inclined surface on an outer periphery of a striking plate (55) with

second inclination corresponding to that of the first inclined surface of the opening of the body, engaging the inclined surface of the striking plate (55) with the inclined surface of the body (47), and a force is exerted to the striking plate (55) to engage the striking plate in the opening of the body. The first inclined surface delimiting the opening of the body (47) tapers inward, and the second inclined surface of the striking plate tapers rearward. The first inclined surface delimiting the opening (57) of the body is one of planar and arcuate, and the second inclined surface of the striking plate (55) is one of planar and arcuate. The first inclined surface of the body (47) has a height greater than a thickness of the striking plate such that the striking plate is retained within the opening (57) and being flush with the body (47). *See column 5, lines 33-52, and figure 6 for further clarification.*

Aizawa, however, does not disclose the following: exerting a predetermined force to the striking plate to tightly embed the striking plate in the opening of the body in preparation for friction welding, moving a rotating pin along the engaging area between the striking plate and the body to proceed with the friction welding with the predetermined force exerting on the striking plate, or surface finishing the engaging area between the striking plate and the body.

Matsumoto discloses exerting a predetermined force (i.e. press-fit force) onto a plate (1) which is thereby translated to the plate (3) in preparation for friction welding, and a rotating pin (11) is moved along an engaging area between two plates (1, 2) to proceed with friction welding, with the predetermined force exerting on the first plate (1), in order to provide a high strength joint. *See abstract and figures 1-2 for further clarification.*

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Chang discloses surface finishing an engaging area between the between the striking plate (10) and the body (20) of a golf club head, in order to remove any burrs.

*See paragraph [0021] and figure 2 for further clarification.*

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to exert a predetermined force to the striking plate of Aizawa to tightly embed the plate in the opening of the body in preparation for friction welding, friction weld the striking plate of Aizawa to the body, and surface finish the engaging area between the striking plate and the body of Aizawa, in light of the respective teachings of Matsumoto and Chang, in order to provide a high strength joint between the assembled parts, and remove any burrs from the surface.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermie Cozart whose telephone number is 571-272-4528. The examiner can normally be reached on Monday-Thursday, 7:30 am - 6:00 pm.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Jermie Cozart", with a stylized flourish at the end.

Jermie Cozart  
Examiner  
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